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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,459	02/07/2002	Gary Lee Butler	12929.1071US01	1822
23552	7590	02/13/2004	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			YEUNG, JAMES C	
			ART UNIT	PAPER NUMBER
			3749	
			DATE MAILED: 02/13/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

10/072,459

Applicant(s)

BUTLER ET AL.

Examin r

James C Yeung

Art Unit

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-- The MAILING DATE of this communication app ars on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 U.S.C. § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Butler (prior art cited by applicant in Paper No. 6) in view of Feyling (newly cited).

Butler discloses the invention substantially as claimed (note col. 3, lines 14 - 28 and/or elements 43 and 35, Fig. 2). However, Butler does not disclose a mixture fitting.

Feyling shows in Figs. 1-2 a mixture fitting for use in a combustion system, the mixture fitting comprising: a gas passage (6) and an air orifice (7) extending from a first end at an outer surface of the mixture fitting to a second end at the gas passage, wherein the air orifice (7) is oriented **at an angle in a direction of a normal flow of the combustible gas** such that the first end is positioned upstream of the flow of the combustible gas with respect to the second end of the air orifices (7).

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This particular arrangement shown by Feyling is used for the purpose of permitting thorough mixing of primary air with the combustible gas in a combustible gas burner system so as to increase combustion efficiency.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the outlet of the gas supply tube (44, Fig. 2) of Butler with a mixture fitting of the type such as taught by Feyling in Figs. 1-2 in order to permit thorough mixing of air with the combustible gas so as to increase combustion efficiency.

3. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over De Gouville (prior art of record) in view of Feyling (newly cited).

De Gouville shows in Figs. 1-4, a method for mixing of combustible gas and air, the method comprising the step of:

providing a combustible gas source (8);

providing an air shuttle (13a) to receive the combustible gas and air mixture;

providing a mixture fitting that defines a gas passage (9) and an air orifice (11) extending from a first end at an outer surface of the mixture fitting to a second end at the gas passage (9), wherein the combustible gas source (10) delivers combustible gas to the gas passage (9) and wherein the air orifice (11) provides primary air to the gas passage (9) for mixture with the combustible gas; and

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placing the mixture fitting in the air shuttle (13a).

However, De Gouville does not disclose that the orifices are oriented at an angle in a direction of a flow of the combustible gas within the gas passage.

Feyling shows in Figs. 1-2 a mixture fitting for use in a combustion system, the mixture fitting comprising: a gas passage (6) and an air orifice (7) extending from a first end at an outer surface of the mixture fitting to a second end at the gas passage, wherein the air orifice (7) is oriented **at an angle in a direction of a normal flow of the combustible gas** such that the first end is positioned upstream of the flow of the combustible gas with respect to the second end of the air orifices (7).

This particular arrangement shown by Feyling is used for the purpose of permitting thorough mixing of primary air with the combustible gas in a combustible gas burner system so as to increase combustion efficiency

It would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the air orifice (11, Fig. 1) of De Gouville such that the air orifice is oriented **at an angle in a direction of a normal flow of the combustible gas** in the manner as taught by Feyling in Figs. 1-2 in order to permit thorough mixing of the primary air with the combustible gas so as to increase combustion efficiency.


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4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire **THREE MONTHS** from the date of this action. In the event a first response is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than **SIX MONTHS** from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James C. Yeung whose telephone number is (703) 308-1047. The facsimile telephone number for this Art Unit is (703) 872-9306.

JY
February 10, 2004


James C. Yeung
Primary Examiner